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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,965	09/29/1999	DAVID A. WRIGHT	22-0056	4681

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EXAMINER

DO, NHAT Q

ART UNIT

PAPER NUMBER

2663

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/408,965

Applicant(s)

WRIGHT ET AL.

Examiner

Nhat Do

ND

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                      6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

- 1 The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2 Claims 1-52 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Based on Applicants' explanation on page 12: "the earth terminal may then adjust the downlink symbol counter to account for any timing errors in transmitting bursts to the satellite. For example, if the earth terminal sends the transmissions too early, the downlink symbol counter will be incremented, and if the earth terminal sends the transmissions too late the downlink symbol counter will be decremented." the limitation "downlink symbol counter" is not a concise term because the "downlink symbol counter" is used to control data transmission from the earth terminal to the satellite while one having ordinary skill in the art would have understood that "a downlink symbol counter" is a counter for counting symbol transmitted from a satellite to an earth terminal.

- 3 Claims 2, 12, 28, 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 2; 12; 28; and 38 recite the limitation "said downlink signal" in lines 2; 3; 3; and 3 correspondingly. There is insufficient antecedent basis for this limitation in the claims.

***Claim Rejections - 35 USC § 103***

4 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5 Claims 1, 2, 14, 17-21, 27, 28, 40, 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,659,545 to Sowles et al., wherein the "downlink symbol counter" of line 3 is assumed 'a timing device for timing data transmission from the earth station to the satellite' and "determining a downlink symbol count representative of a time of arrival at a satellite of a burst transmitted from an earth station" of line 5 is assumed 'sending a correction code from the satellite to the earth station representing the time arrival of burst sent by the earth station to the satellite'. Sowles et al. disclose establishing a communication link between a satellite and an earth terminal (Col. 9, line 1-10), wherein determining a downlink symbol count representative of a time of arrival at a satellite of a burst transmitted from an earth station (Col. 10, line 43-65; col. 12, line 14-22). Based on what Sowles et al. taught: the subscriber unit sends a communication signal to the satellite, receives timing error from the satellite, and adjusts its timing and frequency until synchronization achieves before communication starts (Col. 8, line 59-67; col. 11, line 59-67). In the other words, the earth station needs a device for timing the signal transmission; then the device adjusts the timing based on error information sent from the satellite until the device produce a correct timing. Therefore, it is inherent that there is a

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downlink symbol counter for adjusting the timing based on the received error, which is adjusted corresponding to the downlink symbol count and transmitting bursts from the earth station to the satellite in accordance to the downlink symbol counter. Sowles et al. fail to disclose extracting clock from the downlink signal and clocking the downlink symbol counter at the downlink clock rate. However, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to extract clock from the downlink signal and clock the downlink symbol counter at the downlink clock rate since a skilled artisan would have been motivated to adjust the timing based on downlink signals from the satellite as taught by Sowles et al.

Regarding to claim 17, the limitation “transmitting an entry order wire” is assumed ‘transmitting a signal in a signaling channel’. Sowles et al. disclose transmitting an entry order wire from the earth terminal to the satellite (Col. 9, line 45-47).

Regarding to claims 18, 44, Sowles et al. disclose determining an identification of the earth terminal; sending the identification to the satellite (Col. 9, line 52-56); generating a synchronization channel assignment for the earth terminal (Col. 9, line 64-67); and transmitting the synchronization channel assignment to the earth terminal (Col. 10, line 43-45). Sowles et al. do not expressly disclose providing an identification of the earth terminal to a network control center. Sowles et al. disclose a network control center 45 with a processor 40 for managing user access, channel access (Col. 6, line 15-23). Therefore, it is inherent that there must be a step of providing an identification of the earth terminal to the network control center for setting up a channel.

Regarding to claims 22-25, 48-51, Sowles et al. fail to disclose transmitting a multi-bit correction code that indicates late, early, on time or absent of data arrival and store the correction

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code to the earth terminal. However, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to transmit a multi-bit correction code that indicates late, early, on time or absent of data arrival and storing the correction code to the earth terminal on the system taught by Sowles et al. because the earth terminal needs those information to achieve synchronization.

Regarding to claim 27, Sowles et al. does not expressly disclose that generating a master clock on the satellite and transmitting downlink symbols synchronously with the master clock from the satellite to the earth terminal. However, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to generate a master clock on the satellite and transmitting downlink symbols synchronously with the master clock from the satellite to the earth terminal since a skilled artisan would have been motivated to recover clock from the downlink data and using it for timing the uplink transmission in order to improve synchronization because both the satellite and the earth terminal using one clock reference.

7        Claims 3- 6, 7-9, 11, 15, 16, 26, 29-32, 33-35, 37, 41, 42, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sowles et al. as applied to claims 1, and 27 above, and further in view of U.S. Patent No. 5,867,489 to Hershey et al.. Sowles et al. fail to disclose determining; storing an earth terminal location in the earth terminal; providing a satellite position of the satellite to the earth terminal in a cell; determining an initial estimate using the position of the earth terminal and the satellite. Hershey et al. disclose a method of calculating a propagation delay between a satellite and an earth station comprising: storing an earth location in the earth terminal; providing a satellite position of the satellite to the earth terminal in a cell; determining an initial estimate using the position of the earth terminal and the satellite (Col. 7, line 14-16, 53-

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57). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to add the steps of storing an earth location in the earth terminal; providing a satellite position of the satellite to the earth terminal in a cell; determining an initial estimate using the position of the earth terminal and the satellite taught by Hershey et al. to the synchronization method taught by Sowles et al. since a skill artisan would have been motivated to compensate for the propagation delay between the satellite and the earth station in order to get a better synchronization.

Regarding to claims 7-9, 11, 15, 16, 26, 33-35, 37, 41, 42, and 52, further to the rejection to claim 3, neither Sowles et al. nor Hershey et al. disclose periodically updating the value of length L and adjusting the downlink symbol counter to account for changes in the length L. However, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to periodically update the value of length L and adjusting the downlink symbol counter to account for changes in the length L since a skilled artisan would have been motivated to do so in order to reduce doppler effect because the length L change at all time.

### *Conclusion*

8 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhat Do whose telephone number is (703) 305-5743. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6743 for regular communications and 703-308-6743 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

ND

November 20, 2002

A handwritten signature in black ink, appearing to read 'Melvin Marcelo', written in a cursive style.

MELVIN MARCELO  
PRIMARY EXAMINER